

### REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the above amendments and the following remarks.

Applicants wish to thank the Examiner for courteously affording a telephone interview on June 22, 2010. The participants were Examiner H. Foud and Kevin Spivak, Reg. No. 43148. During the interview, the attorney discussed the addition of the phrase “which are different from spreading codes” in the independent claims. No agreement was reached on this issue. However, the Examiner proposed that the language found in paragraph [0128] of the published application provides patentably distinct features, that if incorporated into the claims, would provide allowable subject matter over the prior art of record. The following includes a summary of the substance of the interview including the claims and prior art discussed.

Claims 14-24 are pending in this application. Claims 14-17 and 20-24 are amended, and new claim 31 added. Support for new claim 31 may be found in paragraph [0128] of the published application. No new matter has been added. (It should be noted that references herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments.)

Claim 17 has been rejected under 35 USC 112, first paragraph. Specifically, the Office Action states that the term “assigner” is “considered similar to a ‘means for assigning’ because it does not recite specific ‘structure, materials or acts in support thereof’ for performing the recited functions....” As such, the Office Action concludes that “the claim is, in effect, single means claim that are improper under 35 U.S.C. 112, first paragraph.” Applicant respectfully traverses the rejection. The term “assigner” does not presumptively fall within the purview of 35 USC

112, sixth paragraph, and thus the claim is not directed to a single means. A radio network controller apparatus is a well known, structural apparatus that may include a wide variety of devices, including for example, an “assigner.” One skilled in the art would know how to make and/or use an “assigner” to assign a spreading code and symbol patterns, as required the instant claimed invention. Nevertheless, in order to expedite allowance and more particularly define the invention, claim 17 has been amended for clarity, and not for reasons related to patentability, to include the further element of “a sender that sends the assigned spreading code and symbol patterns to a radio base station apparatus.”

Claims 14, 16, 17, and 19-24 have been rejected under 35 USC §103(a) as unpatentable over Karjalainen (US 2002/0176438) in view of Scott (US 5,832,022). Claims 15 and 18 have been rejected under 35 USC §103(a) as unpatentable over Karjalainen in view of Scott and Atarashi et al. (US 7,298,721). These rejections are respectfully traversed as follows.

The Office Action acknowledges that Karjalainen does not disclose or suggest the instant claimed subject matter of the encoder having a table storing a plurality of mutually uncorrelated symbol patterns and encodes the plurality of types of information using symbol patterns that differ between the types of information (see Office Action, page 4). To overcome this deficiency, the Office Action cites Scott at column 26, lines 14-19, alleging that it would have been obvious to use the encoding method of Scott into the system of Karjalainen for adding another layer of protection to the data to have robust transmission.

The Applicant respectfully disagrees with the above assertions.

Scott discloses, at column 26, lines 14-19, an encoder having a lookup table with a plurality of spread spectrum codes, where a pattern of data bits in the data signal is used for

addressing the lookup table and selecting a particular one of the spread spectrum codes. That is, Scott discloses spreading a plurality of types of information using spreading codes that differ between the types of information. Applicants' claimed subject matter, on the other and, encodes information with symbol patterns that are uncorrelated with each other and that relate to symbols prior to spreading and are patterns in which one symbol is the minimum.

Modifying Karjalainen's base station with the teachings of Scott would produce a base station having an encoder and a spreader that both require spreading codes, and the number of spreading codes to be used would increase significantly. By contrast, the Applicants' claimed invention (as amended) uses symbol patterns, which are different from spreading codes, so that the number of spreading codes to be used can be reduced.

Moreover, the instant claimed invention encodes control information using symbol patterns and spreads the encoded control information using spreading codes. By contrast, the combined teachings of Scott and Karjalainen suggest encoding by spreading codes and spreading by spreading codes. Combining the encoding and spreading techniques of Karjalainen and Scott poses technical difficulties well beyond any teaching or suggestion in the references or known to the skilled artisan, assuming *arguendo* that such combination would even produce a working apparatus.

In Response to Arguments, in paragraph 5, beginning on page 11 of the Office Action, the Office Action argues that "the added limitation only states that the symbols relate to the symbols prior to spreading and are patterns in which one symbol is a minimum unit...However, the added limitation is very broad...[and] are given their broadest reasonable interpretation....Thus, Karjalainen clearly discloses an encoder that encodes a plurality of types of control information

for a single communication terminal for use in uplink packet transmission...wherein each bit is a minimum unit).” Stated differently, the Office Action appears to state that the claims are not limited clearly enough to distinguish the claimed symbol patterns from the claimed spreading codes. Applicant respectfully disagrees.

Claims 14-17, 20 and 22-24, as amended, define a radio base station/radio network controller/communication terminal apparatus that: (1) encodes/decodes a plurality of types of control information, for uplink packet transmission, using mutually uncorrelated symbol patterns, which are different from spreading codes, and that differ between the plurality of types of control information and (2) spreads/sends/transmits the plurality of types of control information after the encoding/decoding process using a single spreading code that is common to the plurality of types of control information. The symbol patterns used to encode the control information relate to symbols prior to spreading and are patterns in which one symbol is a minimum unit.

By these amendments, it becomes clear that features of the claimed subject matter that “the encoder has a table storing a plurality of mutually uncorrelated symbol patterns, which are different from spreading codes, and encodes the plurality of types of control information for a single communication terminal for use in uplink packet transmission, using the symbol patterns that differ between the types of control information,” which the Office Action acknowledges Karjalainen does not disclose (see Office Action page 4, lines 5-8), and which are not disclosed in Scott, as detailed above.

The Office Action also states that “the Remarks (pages 9-11) lack arguments in regard of the added/argued limitation since the Applicant did not discuss the references applied against the added/argued limitation, explaining how the added/argued limitation avoid the references or

distinguish from them. The Applicant respectfully submits that the remarks concerning this limitation were sufficient in that it was pointed out that the applied art, considered alone or together, fails to teach or suggest this feature.

With respect to the reasons for combining the Karjalainen and Scott references on page 4 of the Office Action, the Office states that “it would have been obvious to...use the encoding method of Scott into the system of Karjalainen for the purpose of adding another layer of protection to the data to have a robust transmission.” Applicant respectfully submits that the Office has failed to provide an evidentiary basis on the record in support of these comments. A conclusory statement of this nature is not sufficient to make a *prima facie* case of obviousness. The Office is requested to provide such evidentiary support on the record, or withdraw the rejection.

Since the recited structure and method are not disclosed or suggested by the applied prior art, either alone or in combination, claim 14 is deemed to be allowable. Independent claims 15-17, 20, and 22-24 are similarly considered to be allowable. With respect to claims 15 and 18, Atarashi does not remedy the deficiencies of the applied references with respect to the above-mentioned subject matter distinguishing claim 14 from these references. New claim 31 is allowable since the prior art does not disclose one or the plurality of symbol patterns are assigned to the single communication terminal and polarities of the symbol patterns are changed according to the contents of control information to be transmitted.

In view of the above, it is submitted that this application is in condition for allowance, and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

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